

SEQUENCE LISTING

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<120> Mammalian Cytokines; Related Reagents and Methods

<130> DX0935K

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<141> 2000-03-9

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<170> PatentIn Ver. 2.0

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Cys Thr Val Leu Trp His Leu Pro Ala Val Pro Ala Leu Asn Arg Thr
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cgc tac ctg gag cac caa ctc cgc agc ttg gct ggg acc tat ctg aac 320
Arg Tyr Leu Glu His Gln Leu Arg Ser Leu Ala Gly Thr Tyr Leu Asn
25 30 35

tac ctg ggc ccc cct ttc aac gag cca gac ttc aac cct ccc cgc ctg 368
Tyr Leu Gly Pro Pro Phe Asn Glu Pro Asp Phe Asn Pro Pro Arg Leu
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Gly Ala Glu Thr Leu Pro Arg Ala Thr Val Asp Leu Glu Val Trp Arg		
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agc ctc aat gac aaa ctg cgg ctg acc cag aac tac gag gcc tac agc		464
Ser Leu Asn Asp Lys Leu Arg Leu Thr Gln Asn Tyr Glu Ala Tyr Ser		
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His Leu Leu Cys Tyr Leu Arg Gly Leu Asn Arg Gln Ala Ala Thr Ala		
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105	110	115
ctg ggc agc att gcg ggc gtc atg gca gct ctg ggc tac cca ctg ccc		608
Leu Gly Ser Ile Ala Gly Val Met Ala Ala Leu Gly Tyr Pro Leu Pro		
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Gln Pro Leu Pro Gly Thr Glu Pro Thr Trp Thr Pro Gly Pro Ala His		
135	140	145
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Ser Asp Phe Leu Gln Lys Met Asp Asp Phe Trp Leu Leu Lys Glu Leu		
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cag acc tgg ctg tgg cgc tcg gcc aag gac ttc aac cgg ctc aag aag		752
Gln Thr Trp Leu Trp Arg Ser Ala Lys Asp Phe Asn Arg Leu Lys Lys		
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aag atg cag cct cca gca gct gca gtc acc ctg cac ctg ggg gct cat		800
Lys Met Gln Pro Pro Ala Ala Ala Val Thr Leu His Leu Gly Ala His		
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Gly Phe		
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Thr Tyr Asp Leu Thr Arg Tyr Leu Glu His Gln Leu Arg Ser Leu Ala
20 25 30

Gly Thr Tyr Leu Asn Tyr Leu Gly Pro Pro Phe Asn Glu Pro Asp Phe
35 40 45

Asn Pro Pro Arg Leu Gly Ala Glu Thr Leu Pro Arg Ala Thr Val Asp
50 55 60

Leu Glu Val Trp Arg Ser Leu Asn Asp Lys Leu Arg Leu Thr Gln Asn
65 70 75

Tyr Glu Ala Tyr Ser His Leu Leu Cys Tyr Leu Arg Gly Leu Asn Arg
80 85 90 95

Gln Ala Ala Thr Ala Glu Leu Arg Arg Ser Leu Ala His Phe Cys Thr
100 105 110

Ser Leu Gln Gly Leu Leu Gly Ser Ile Ala Gly Val Met Ala Ala Leu
115 120 125

Gly Tyr Pro Leu Pro Gln Pro Leu Pro Gly Thr Glu Pro Thr Trp Thr
130 135 140

Pro Gly Pro Ala His Ser Asp Phe Leu Gln Lys Met Asp Asp Phe Trp
145 150 155

Leu Leu Lys Glu Leu Gln Thr Trp Leu Trp Arg Ser Ala Lys Asp Phe
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His Leu Gly Ala His Gly Phe
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Ala Leu Asn Arg Thr Gly Asp Pro Gly Pro Gly Pro Ser Ile Gln Lys
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Thr Tyr Asp Leu Thr Arg Tyr Leu Glu His Gln Leu Arg Ser Leu Ala
20 25 30

ggg acc tac ctg aac tac ctg ggg ccc cct ttc aac gag cct gac ttc 192
Gly Thr Tyr Leu Asn Tyr Leu Gly Pro Pro Phe Asn Glu Pro Asp Phe
35 40 45

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Asn Pro Pro Arg Leu Gly Ala Glu Thr Leu Pro Arg Ala Thr Val Asn
50 55 60

ttg gaa gtg tgg cga agc ctc aat gac agg ctg cgg ctg acc cag aac 288
Leu Glu Val Trp Arg Ser Leu Asn Asp Arg Leu Arg Leu Thr Gln Asn
65 70 75

tat gag gcg tac agt cac ctc ctg tgt tac ttg cgt ggc ctc aac cgt 336
Tyr Glu Ala Tyr Ser His Leu Leu Cys Tyr Leu Arg Gly Leu Asn Arg
80 85 90 95

cag gct gcc aca gct gaa ctc cga cgt agc ctg gcc cac ttc tgt acc 384
Gln Ala Ala Thr Ala Glu Leu Arg Arg Ser Leu Ala His Phe Cys Thr
100 105 110

agc ctc cag ggc ctg ctg ggc agc att gca ggt gtc atg gcg acg ctt 432
Ser Leu Gln Gly Leu Leu Gly Ser Ile Ala Gly Val Met Ala Thr Leu
115 120 125

ggc tac cca ctg ccc cag cct ctg cca ggg act gag cca gcc tgg gcc 480
Gly Tyr Pro Leu Pro Gln Pro Leu Pro Gly Thr Glu Pro Ala Trp Ala
130 135 140

cct ggc cct gcc cac agt gac ttc ctc cag aag atg gat gac ttc tgg 528
Pro Gly Pro Ala His Ser Asp Phe Leu Gln Lys Met Asp Asp Phe Trp
145 150 155

ctg ctg aag gag ctg cag acc tgg cta tgg cgt tca gcc aag gac ttc 576
Leu Leu Lys Glu Leu Gln Thr Trp Leu Trp Arg Ser Ala Lys Asp Phe
160 165 170 175

aac cgg ctt aag aag aag atg cag cct cca gca gct tca gtc acc ctg 624
Asn Arg Leu Lys Lys Met Gln Pro Pro Ala Ala Ser Val Thr Leu
180 185 190

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His Leu Glu Ala His Gly Phe
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Thr Tyr Asp Leu Thr Arg Tyr Leu Glu His Gln Leu Arg Ser Leu Ala
20 25 30

Gly Thr Tyr Leu Asn Tyr Leu Gly Pro Pro Phe Asn Glu Pro Asp Phe
35 40 45

Asn Pro Pro Arg Leu Gly Ala Glu Thr Leu Pro Arg Ala Thr Val Asn
50 55 60

Leu Glu Val Trp Arg Ser Leu Asn Asp Arg Leu Arg Leu Thr Gln Asn
65 70 75

Tyr Glu Ala Tyr Ser His Leu Leu Cys Tyr Leu Arg Gly Leu Asn Arg
80 85 90 95

Gln Ala Ala Thr Ala Glu Leu Arg Arg Ser Leu Ala His Phe Cys Thr
100 105 110

Ser Leu Gln Gly Leu Leu Gly Ser Ile Ala Gly Val Met Ala Thr Leu
115 120 125

Gly Tyr Pro Leu Pro Gln Pro Leu Pro Gly Thr Glu Pro Ala Trp Ala
130 135 140

Pro Gly Pro Ala His Ser Asp Phe Leu Gln Lys Met Asp Asp Phe Trp
145 150 155

Leu Leu Lys Glu Leu Gln Thr Trp Leu Trp Arg Ser Ala Lys Asp Phe
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180 185 190

His Leu Glu Ala His Gly Phe
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His Trp Lys His Gly Ala Gly Ser Pro Leu Pro Ile Thr Pro Val Asn
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Ala Thr Cys Ala Ile Arg His Pro Cys His Gly Asn Leu Met Asn Gln
35 40 45

Ile Lys Asn Gln Leu Ala Gln Leu Asn Gly Ser Ala Asn Ala Leu Phe
50 55 60

Ile Ser Tyr Tyr Thr Ala Gln Gly Glu Pro Phe Pro Asn Asn Val Glu
65 70 75 80

Lys Leu Cys Ala Pro Asn Met Thr Asp Phe Pro Ser Phe His Gly Asn
85 90 95

Gly Thr Glu Lys Thr Lys Leu Val Glu Leu Tyr Arg Met Val Ala Tyr
100 105 110

Leu Ser Ala Ser Leu Thr Asn Ile Thr Arg Asp Gln Lys Val Leu Asn
115 120 125

Pro Thr Ala Val Ser Leu Gln Val Lys Leu Asn Ala Thr Ile Asp Val
130 135 140

Met Arg Gly Leu Leu Ser Asn Val Leu Cys Arg Leu Cys Asn Lys Tyr
145 150 155 160

Arg Val Gly His Val Asp Val Pro Val Pro Asp His Ser Asp Lys
165 170 175

Glu Ala Phe Gln Arg Lys Lys Leu Gly Cys Gln Leu Leu Gly Thr Tyr
180 185 190

Lys Gln Val Ile Ser Val Val Val Gln Ala Phe

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Thr Cys Ala Ile Arg His Pro Cys His Asn Asn Leu Met Asn Gln Ile
35 40 45

Arg Ser Gln Leu Ala Gln Leu Asn Gly Ser Ala Asn Ala Leu Phe Ile
50 55 60

Leu Tyr Tyr Thr Ala Gln Gly Glu Pro Phe Pro Asn Asn Leu Asp Lys
65 70 75 80

Leu Cys Gly Pro Asn Val Thr Asp Phe Pro Pro Phe His Ala Asn Gly
85 90 95

Thr Glu Lys Ala Lys Leu Val Glu Leu Tyr Arg Ile Val Val Tyr Leu
100 105 110

Gly Thr Ser Leu Gly Asn Ile Thr Arg Asp Gln Lys Ile Leu Asn Pro
115 120 125

Ser Ala Leu Ser Leu His Ser Lys Leu Asn Ala Thr Ala Asp Ile Leu
130 135 140

Arg Gly Leu Leu Ser Asn Val Leu Cys Arg Leu Cys Ser Lys Tyr His
145 150 155 160

Val Gly His Val Asp Val Thr Tyr Gly Pro Asp Thr Ser Gly Lys Asp
165 170 175

Val Phe Gln Lys Lys Leu Gly Cys Gln Leu Leu Gly Lys Tyr Lys
180 185 190

Gln Ile Ile Ala Val Leu Ala Gln Ala Phe
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Leu Ala His Leu Leu Thr Lys Tyr Ala Glu Gln Leu Leu Gln Glu Tyr
35 40 45

Val Gln Leu Gln Gly Asp Pro Phe Gly Leu Pro Ser Phe Ser Pro Pro
50 55 60

Arg Leu Pro Val Ala Gly Leu Ser Ala Pro Ala Pro Ser His Ala Gly
65 70 75 80

Leu Pro Val His Glu Arg Leu Arg Leu Asp Ala Ala Ala Leu Ala Ala
85 90 95

Leu Pro Pro Leu Leu Asp Ala Val Cys Arg Arg Gln Ala Glu Leu Asn
100 105 110

Pro Arg Ala Pro Arg Leu Leu Arg Arg Leu Glu Asp Ala Ala Arg Gln
115 120 125

Ala Arg Ala Leu Gly Ala Ala Val Glu Ala Leu Leu Ala Ala Leu Gly
130 135 140

Ala Ala Asn Arg Gly Pro Arg Ala Glu Pro Pro Ala Ala Thr Ala Ser
145 150 155 160

Ala Ala Ser Ala Thr Gly Val Phe Pro Ala Lys Val Leu Gly Leu Arg
165 170 175

Val Cys Gly Leu Tyr Arg Glu Trp Leu Ser Arg Thr Glu Gly Asp Leu
180 185 190

Gly Gln Leu Leu Pro Gly Gly Ser Ala
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Ile Ser Phe Leu Pro His Leu Glu Ala Lys Ile Arg Gln Thr His Asn
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Leu Ala Arg Leu Leu Thr Lys Tyr Ala Glu Gln Leu Leu Glu Glu Tyr
35 40 45

Val Gln Gln Gln Gly Glu Pro Phe Gly Leu Pro Gly Phe Ser Pro Pro
50 55 60

Arg Leu Pro Leu Ala Gly Leu Ser Gly Pro Ala Pro Ser His Ala Gly

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70

75

80

Leu Pro Val Ser Glu Arg Leu Arg Gln Asp Ala Ala Ala Leu Ser Val
85 90 95

Leu Pro Ala Leu Leu Asp Ala Val Arg Arg Arg Gln Ala Glu Leu Asn
100 105 110

Pro Arg Ala Pro Arg Leu Leu Arg Ser Leu Glu Asp Ala Ala Arg Gln
115 120 125

Val Arg Ala Leu Gly Ala Ala Val Glu Thr Val Leu Ala Ala Leu Gly
130 135 140

Ala Ala Ala Arg Gly Pro Gly Pro Glu Pro Val Thr Val Ala Thr Leu
145 150 155 160

Phe Thr Ala Asn Ser Thr Ala Gly Ile Phe Ser Ala Lys Val Leu Gly
165 170 175

Phe His Val Cys Gly Leu Tyr Gly Glu Trp Val Ser Arg Thr Glu Gly
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Asp Leu Gly Gln Leu Val Pro Gly Gly Val Ala
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Ala Leu Thr Glu Ser Tyr Val Lys His Gln Gly Leu Asn Lys Asn Ile
35 40 45

Asn Leu Asp Ser Ala Asp Gly Met Pro Val Ala Ser Thr Asp Gln Trp
50 55 60

Ser Glu Leu Thr Glu Ala Glu Arg Leu Gln Glu Asn Leu Gln Ala Tyr
65 70 75 80

Arg Thr Phe His Val Leu Leu Ala Arg Leu Leu Glu Asp Gln Gln Val
85 90 95

His Phe Thr Pro Thr Glu Gly Asp Phe His Gln Ala Ile His Thr Leu
100 105 110

Leu Leu Gln Val Ala Ala Phe Ala Tyr Gln Ile Glu Glu Leu Met Ile
115 120 125

Leu Leu Glu Tyr Lys Ile Pro Arg Asn Glu Ala Asp Gly Met Pro Ile
130 135 140

Asn Val Gly Asp Gly Gly Leu Phe Glu Lys Lys Leu Trp Gly Leu Lys
145 150 155 160

Val Leu Gln Glu Leu Ser Gln Trp Thr Val Arg Ser Ile His Asp Leu
165 170 175

Arg Phe Ile Ser Ser His Gln Thr Gly Ile Pro Ala Arg Gly Ser His
180 185 190

Tyr Ile Ala Asn Asn Lys Lys Met
195 200

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20 25 30

Ala Leu Met Glu Ser Tyr Val Lys His Gln Gly Leu Asn Lys Asn Ile
35 40 45

Ser Leu Asp Ser Val Asp Gly Val Pro Val Ala Ser Thr Asp Arg Trp
50 55 60

Ser Glu Met Thr Glu Ala Glu Arg Leu Gln Glu Asn Leu Gln Ala Tyr
65 70 75 80

Arg Thr Phe Gln Gly Met Leu Thr Lys Leu Leu Glu Asp Gln Arg Val
85 90 95

His Phe Thr Pro Thr Glu Gly Asp Phe His Gln Ala Ile His Thr Leu
100 105 110

Thr Leu Gln Val Ser Ala Phe Ala Tyr Gln Leu Glu Leu Met Ala
115 120 125

Leu Leu Glu Gln Lys Val Pro Glu Lys Glu Ala Asp Gly Met Pro Val
130 135 140

Thr Ile Gly Asp Gly Gly Leu Phe Glu Lys Lys Leu Trp Gly Leu Lys
145 150 155 160

Val Leu Gln Glu Leu Ser Gln Trp Thr Val Arg Ser Ile His Asp Leu
165 170 175

Arg Val Ile Ser Ser His His Met Gly Ile Ser Ala His Glu Ser His
180 185 190

Tyr Gly Ala Lys Gln Met
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35 40 45

Pro Ser Leu Leu Ser Val Ser Val Leu Leu Gln Leu Gln Tyr Gln Gly
50 55 60

Ser Pro Phe Ser Asp Pro Gly Phe Ser Ala Pro Glu Leu Gln Leu Ser
65 70 75 80

Ser Leu Pro Pro Ala Thr Ala Phe Phe Lys Thr Trp His Ala Leu Asp
85 90 95

Asp Gly Glu Arg Leu Ser Leu Ala Gln Arg Ala Ile Asp Pro His Leu
100 105 110

Gln Leu Val Glu Asp Asp Gln Ser Asp Leu Asn Pro Gly Ser Pro Ile
115 120 125

Leu Pro Ala Gln Leu Gly Ala Ala Arg Leu Arg Ala Gln Gly Pro Leu
130 135 140

Gly Asn Met Ala Ala Ile Met Thr Ala Leu Gly Leu Pro Ile Pro Pro
145 150 155 160

Glu Glu Asp Thr Pro Gly Leu Ala Ala Phe Gly Ala Ser Ala Phe Glu
165 170 175

Arg Lys Cys Arg Gly Tyr Val Val Thr Arg Glu Tyr Gly His Trp Thr
180 185 190

Asp Arg Ala Val Arg Asp Leu Ala Leu Leu Lys Ala Lys Tyr Ser Ala
195 200 205

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20 25 30

Arg Ala Gly Ser Gly Ala His Thr Ala Val Ile Ser Pro Gln Asp Pro
35 40 45

Thr Leu Leu Ile Gly Ser Ser Leu Leu Ala Thr Cys Ser Val His Gly
50 55 60

Asp Pro Pro Gly Ala Thr Ala Glu Gly Leu Tyr Trp Thr Leu Asn Gly
65 70 75 80

Arg Arg Leu Pro Pro Glu Leu Ser Arg Val Leu Asn Ala Ser Thr Leu
85 90 95

Ala Leu Ala Leu Ala Asn Leu Asn Gly Ser Arg Gln Arg Ser Gly Asp
100 105 110

Asn Leu Val Cys His Ala Arg Asp Gly Ser Ile Leu Ala Gly Ser Cys
115 120 125

Leu Tyr Val Gly Leu Pro Pro Glu Lys Pro Val Asn Ile Ser Cys Trp
130 135 140

Ser Lys Asn Met Lys Asp Leu Thr Cys Arg Trp Thr Pro Gly Ala His
145 150 155 160

Gly Glu Thr Phe Leu His Thr Asn Tyr Ser Leu Lys Tyr Lys Leu Arg
165 170 175

Trp Tyr Gly Gln Asp Asn Thr Cys Glu Glu Tyr His Thr Val Gly Pro
180 185 190

His Ser Cys His Ile Pro Lys Asp Leu Ala Leu Phe Thr Pro Tyr Glu
195 200 205

Ile Trp Val Glu Ala Thr Asn Arg Leu Gly Ser Ala Arg Ser Asp Val
210 215 220

Leu Thr Leu Asp Ile Leu Asp Val Val Thr Thr Asp Pro Pro Pro Asp
225 230 235 240

Val His Val Ser Arg Val Gly Leu Glu Asp Gln Leu Ser Val Arg
245 250 255

Trp Val Ser Pro Pro Ala Leu Lys Asp Phe Leu Phe Gln Ala Lys Tyr
260 265 270

Gln Ile Arg Tyr Arg Val Glu Asp Ser Val Asp Trp Lys Val Val Asp
275 280 285

Asp Val Ser Asn Gln Thr Ser Cys Arg Leu Ala Gly Leu Lys Pro Gly
290 295 300

Thr Val Tyr Phe Val Gln Val Arg Cys Asn Pro Phe Gly Ile Tyr Gly
305 310 315 320

Ser Lys Lys Ala Gly Ile Trp Ser Glu Trp Ser His Pro Thr Ala Ala
325 330 335

Ser Thr Pro Arg Ser Glu Arg Pro Gly Pro Gly Gly Ala Cys Glu
340 345 350

Pro Arg Gly Gly Glu Pro Ser Ser Gly Pro Val Arg Arg Glu Leu Lys
355 360 365

Gln Phe Leu Gly Trp Leu Lys Lys His Ala Tyr Cys Ser Asn Leu Ser
370 375 380

Phe Arg Leu Tyr Asp Gln Trp Arg Ala Trp Met Gln Lys Ser His Lys
385 390 395 400

Thr Arg Asn Gln Val Leu Pro Asp Lys Leu
405 410

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<213> rodent

<400> 13

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Val Pro Arg Gly Gly Ser Gly Ala His Thr Ala Val Ile Ser Pro Gln
20 25 30

Asp Pro Thr Leu Leu Ile Gly Ser Ser Leu Gln Ala Thr Cys Ser Ile
35 40 45

His Gly Asp Thr Pro Gly Ala Thr Ala Glu Gly Leu Tyr Trp Thr Leu
50 55 60

Asn Gly Arg Arg Leu Pro Ser Leu Ser Arg Leu Leu Asn Thr Ser Thr
65 70 75 80

Leu Ala Leu Ala Leu Ala Asn Leu Asn Gly Ser Arg Gln Gln Ser Gly
85 90 95

Asp Asn Leu Val Cys His Ala Arg Asp Gly Ser Ile Leu Ala Gly Ser
100 105 110

Cys Leu Tyr Val Gly Leu Pro Pro Glu Lys Pro Phe Asn Ile Ser Cys
115 120 125

Trp Ser Arg Asn Met Lys Asp Leu Thr Cys Arg Trp Thr Pro Gly Ala
130 135 140

His Gly Glu Thr Phe Leu His Thr Asn Tyr Ser Leu Lys Tyr Lys Leu
145 150 155 160

Arg Trp Tyr Gly Gln Asp Asn Thr Cys Glu Glu Tyr His Thr Val Gly
165 170 175

Pro His Ser Cys His Ile Pro Lys Asp Leu Ala Leu Phe Thr Pro Tyr
180 185 190

Glu Ile Trp Val Glu Ala Thr Asn Arg Leu Gly Ser Ala Arg Ser Asp
195 200 205

Val Leu Thr Leu Asp Val Leu Asp Val Val Thr Thr Asp Pro Pro Pro
210 215 220

Asp Val His Val Ser Arg Val Gly Gly Leu Glu Asp Gln Leu Ser Val
225 230 235 240

Arg Trp Val Ser Pro Pro Ala Leu Lys Asp Phe Leu Phe Gln Ala Lys
245 250 255

Tyr Gln Ile Arg Tyr Arg Val Glu Asp Ser Val Asp Trp Lys Val Val
260 265 270

Asp Asp Val Ser Asn Gln Thr Ser Cys Arg Leu Ala Gly Leu Lys Pro
275 280 285

Gly Thr Val Tyr Phe Val Gln Val Arg Cys Asn Pro Phe Gly Ile Tyr
290 295 300

Gly Ser Lys Lys Ala Gly Ile Trp Ser Glu Trp Ser His Pro Thr Ala
305 310 315 320

Ala Ser Thr Pro Arg Ser Glu Arg Pro Gly Pro Gly Gly Val Cys
325 330 335

Glu Pro Arg Gly Gly Glu Pro Ser Ser Gly Pro Val Arg Arg Glu Leu
340 345 350

Lys Gln Phe Leu Gly Trp Leu Lys Lys His Ala Tyr Cys Ser Asn Leu
355 360 365

Ser Phe Arg Leu Tyr Asp Gln Trp Arg Ala Trp Met Gln Lys Ser His
370 375 380

Lys Thr Arg Asn Gln Asp Glu Gly Ile Leu Pro Ser Gly Arg Arg Gly
385 390 395 400

Ala Ala Arg Gly Pro Ala Gly
405